

DP-302479

NO_x CONTROL

ABSTRACT OF THE DISCLOSURE

A NO_x control for an exhaust is provided. The NO_x control includes a nickel compound and a NO_x adsorber. The NO_x adsorber is suitable for a high oxygen content exhaust, such as an exhaust from a compression-ignition engine or a lean-burn spark-ignition engine having oxygen content greater than about 1 molar% based on the total exhaust. Systems for treating an exhaust gas are also provided, including use of a non-thermal plasma reactor and a NO_x control, or use of a first non-thermal plasma reactor, a particulate trap, a second non-thermal plasma reactor, and a NO_x control. Additionally, methods for forming a NO_x control are also described, comprising either mixing, milling, or sintering a nickel compound integrally with a NO_x adsorber, or processing a nickel compound with a NO_x adsorber by mixing, milling, or sintering, washcoating, imbibing, impregnating, physisorbing, chemisorbing, precipitating, vapor depositing, or any combination of at least one of the foregoing processing techniques.